

82 3. (Once amended) A process as claimed in claim 1 wherein the lysozyme fusion partner is expressed at more than 5g/l in the milk of transgenic animals and is stable with carboxy terminal extensions.

[Please substitute the following claim 4 for currently pending claim 4:]

4. (Once amended) A process as claimed in claim 3 wherein the lysozyme fusion partner is from a placental mammal.

[Please substitute the following claim 5 for currently pending claim 5:]

5. (Once amended) A process as claimed in claim 1, wherein the peptide is from 3 to 110 amino acids in length.

[Please substitute the following claim 6 for currently pending claim 6:]

6. (Once amended) A process as claimed in claim 1, wherein the peptide is one which requires post-translational modification in order to be biologically active, or to improve *in vivo* half life.

[Please substitute the following claim 7 for currently pending claim 7:]

7. (Once amended) A process as claimed in claim 6 wherein the peptide is selected from the group consisting of calcitonin, parathyroid hormone, glucagon, glucagon-like-peptide-1, a peptide with anti-microbial activity, a magainin, a histatin, a protegrin and a clavainin.

[Please substitute the following claim 8 for currently pending claim 8:]

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8. (Once amended) A process as claimed in claim 1, wherein the lysozyme fusion partner comprises a carboxy-terminus extension sequence which serves as a linker between the lysozyme fusion partner and the peptide.

[Please substitute the following claim 9 for currently pending claim 9:]

9. (Once amended) A process as claimed in claim 8 wherein the linker sequence is at least 10 amino acids in length.

Please substitute the following claim 11 for currently pending claim 11:

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11. (Once amended) A process as claimed in claim 1, wherein the fusion protein comprises a cleavage site between the fusion partner protein and peptide.

[Please substitute the following claim 12 for currently pending claim 12:]

12. (Once amended) A process as claimed in claim 11 wherein the cleavage site is one which is capable of being chemically or enzymatically cleaved.

[Please substitute the following claim 13 for currently pending claim 13:]

13. (Once amended) A process as claimed in claim 12 wherein the cleavage site comprises a methionine residue and wherein said cleavage site is capable of being cleaved by cyanogen bromide.

Please substitute the following claim 17 for currently pending claim 17:

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17. (Once amended) A fusion protein comprising a fusion partner protein joined to a peptide by a flexible linker having the sequence (gly-gly-gly-gly-ser)₃.

Please substitute the following claim 22 for currently pending claim 22:

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22. (Once amended) A DNA molecule as claimed in claim 21, wherein said DNA molecule comprises a promoter.

[Please substitute the following claim 23 for currently pending claim 23:]

23. (Once amended) A DNA molecule as claimed in claim 21 which includes a protein leader sequence.

[Please substitute the following claim 24 for currently pending claim 24:]

24. (Once amended) A DNA molecule as claimed in claim 20 which further comprises a sequence encoding a linker sequence which serves as a linker between the lysozyme fusion partner and the peptide.

[Please substitute the following claim 25 for currently pending claim 25:]

25. (Once amended) A DNA molecule as claimed in claim 20, which further comprises a sequence encoding a cleavage site between said fusion partner protein and said peptide.

Please substitute the following claim 27 for currently pending claim 27:

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27. (Once amended) A host cell transformed with a vector as defined in claim 26.

Please substitute the following claim 29 for currently pending claim 29:

67 29. (Once amended) A transgenic mammal as claimed in claim 28, wherein said mammal is selected from the group consisting of a cow, a sheep, a goat, a rabbit, a mouse and a pig.

[Please substitute the following claim 30 for currently pending claim 30:]

30. (Once amended) A composition comprising the fusion protein of claim 16 or claim 17.

(c) Please enter the following new claims 32-75:

68 32. (New) The process of claim 4, wherein said lysozyme fusion partner is from a placental mammal selected from the group consisting of humans, cattle, sheep, goats, rabbits and rats.

33. (New) The process of claim 5, wherein said peptide is from 3 to 100 amino acids in length.

34. (New) The process of claim 6, wherein said postranslational modification is α -amidation.

35. (New) The process of claim 8, wherein said linker sequence is at least 15 amino acids in length.

36. (New) The process of claim 8, wherein said linker sequence is at least 20 amino acids in length.

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37. (New) The fusion protein of claim 16, wherein said lysozyme fusion partner is expressed at more than 5g/l in the milk of transgenic animals and is stable with carboxy terminal extensions.

38. (New) The fusion protein of claim 37, wherein said lysozyme fusion partner is from a placental mammal.

39. (New) The fusion protein of claim 38, wherein said placental mammal is selected from the group consisting of humans, cattle, sheep, goats, rabbits and rats.

40. (New) The fusion protein of claim 16, wherein said peptide is from 3 to 110 amino acids in length.

41. (New) The fusion protein of claim 40, wherein said peptide is from 3 to 100 amino acids in length.

42. (New) The fusion protein of claim 16, wherein said peptide is one which requires post-translational modification in order to be biologically active, or to improve *in vivo* half life.

43. (New) The fusion protein of claim 42, wherein said postranslational modification is α -amidation.

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44. (New) The fusion protein of claim 16, wherein said peptide is selected from the group consisting of calcitonin, parathyroid hormone, glucagon, glucagon-like-peptide-1, a peptide with anti-microbial activity, a magainin, a histatin, a protegrin and a clavainin.

45. (New) The fusion protein of claim 16, wherein said lysozyme fusion partner comprises a carboxy-terminus extension sequence which serves as a linker between the lysozyme fusion partner and the peptide.

46. (New) The fusion protein of claim 45, wherein said linker sequence is at least 10 amino acids in length.

47. (New) The fusion protein of claim 45, wherein said linker sequence is at least 15 amino acids in length.

48. (New) The fusion protein of claim 45, wherein said linker sequence is at least 20 amino acids in length.

49. (New) The fusion protein of claim 46, wherein said linker has the sequence (gly-gly-gly-gly-ser)₃ (SEQ ID NO:1).

50. (New) The fusion protein of claim 16, wherein said fusion protein comprises a cleavage site between the fusion partner protein and peptide.

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51. (New) The fusion protein of claim 50, wherein said cleavage site is one which is capable of being cleaved chemically or enzymatically.

52. (New) The fusion protein of claim 51, wherein said cleavage site comprises a methionine residue and wherein said cleavage site is capable of being cleaved by cyanogen bromide.

53. (New) The fusion protein of claim 50, wherein said cleavage site comprises a sequence of amino acids which includes a specific recognition site for enzymatic cleavage, and which does not occur anywhere else in the fusion protein.

54. (New) The fusion protein of claim 53, wherein said cleavage site comprises the sequence Ile-Glu-Gly-Arg (SEQ ID NO:2) or Asp-Asp-Asp-Lys (SEQ ID NO:3).

55. (New) The fusion protein of claim 17, wherein said peptide is from 3 to 110 amino acids in length.

56. (New) The fusion protein of claim 55, wherein said peptide is from 3 to 100 amino acids in length.

57. (New) The fusion protein of claim 17, wherein said peptide is one which requires post-translational modification in order to be biologically active, or to improve *in vivo* half life.

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58. (New) The fusion protein of claim 57, wherein said postranslational modification is α -amidation.

59. (New) The fusion protein of claim 17, wherein said peptide is selected from the group consisting of calcitonin, parathyroid hormone, glucagon, glucagon-like-peptide-1, a peptide with anti-microbial activity, a magainin, a histatin, a protegrin and a clavainin.

60. (New) The fusion protein of claim 17, wherein said fusion protein comprises a cleavage site between the fusion partner protein and peptide.

61. (New) The fusion protein of claim 60, wherein said cleavage site is one which is capable of being cleaved chemically or enzymatically.

62. (New) The fusion protein of claim 61, wherein said cleavage site comprises a methionine residue and wherein said cleavage site is capable of being cleaved by cyanogen bromide.

63. (New) The fusion protein of claim 60, wherein said cleavage site comprises a sequence of amino acids which includes a specific recognition site for enzymatic cleavage, and which does not occur anywhere else in the fusion protein.

64. (New) The fusion protein of claim 63, wherein said cleavage site comprises the sequence Ile-Glu-Gly-Arg (SEQ ID NO:2) or Asp-Asp-Asp-Lys (SEQ ID NO:3).

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65. (New) The DNA molecule of claim 22, wherein said promoter drives expression of a protein which is naturally found in the milk of a mammal.

66. (New) The DNA molecule of claim 24, wherein said lysozyme fusion partner comprises a carboxy-terminus extension sequence which serves as said linker sequence between the lysozyme fusion partner and the peptide.

67. (New) The DNA molecule of claim 66, wherein said linker sequence is at least 10 amino acids in length.

68. (New) The fusion protein of claim 66, wherein said linker sequence is at least 15 amino acids in length.

69. (New) The fusion protein of claim 66, wherein said linker sequence is at least 20 amino acids in length.

70. (New) The fusion protein of claim 66, wherein said linker has the sequence (gly-gly-gly-gly-ser)₃ (SEQ ID NO:1).

71. (New) A DNA molecule as claimed in claim 25, wherein said cleavage site is one which is capable of being chemically or enzymatically cleaved.

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72. (New) A DNA molecule as claimed in claim 71, wherein said cleavage site comprises a methionine residue and wherein said cleavage site is capable of being cleaved by cyanogen bromide.

73. (New) A DNA molecule as claimed in claim 25, wherein said cleavage site comprises a sequence of amino acids which includes a specific recognition site for enzymatic cleavage, and which does not occur anywhere else in the fusion protein.

74. (New) The fusion protein of claim 73, wherein said cleavage site comprises the sequence Ile-Glu-Gly-Arg (SEQ ID NO:2) or Asp-Asp-Asp-Lys (SEQ ID NO:3).

75. (New) The host cell of claim 27, wherein said host cell is a mammalian cell.
